

Claims

1. An apparatus for injection molding products from a mass comprising at least natural mono- or polymers, provided with at least one mold cavity and one deaeration channel surrounding the mold cavity at least partly, while, between the deaeration channel and the mold cavity, an overdose space is
5 provided which, on the one side, is in communication with the deaeration channel and, on the other side, with the mold cavity.
2. An apparatus according to claim 1, wherein the overdose space and the mold cavity are included in a mold part, while heating means are provided for bringing said mold part, at least the mold cavity and the overdose space at
10 a temperature at which gelatinization of the mass occurs, at least such that during use on the mass present in the overdose, a skin is formed.
3. An apparatus according to claim 2 or 3, wherein the mold cavity, the overdose space and the deaeration channel are designed such that deaeration of the mold cavity during use is only possible via the overdose space and the
15 deaeration channel.
4. An apparatus according to any one of the preceding claims, wherein means are provided for regulating the pressure in the deaeration channel and/or the overdose space.
5. An apparatus according to claim 4, wherein said means comprise at
20 least an adjustable passage opening between the deaeration channel and the surroundings, in particular one or more valves.
6. An apparatus according to any one of the preceding claims, wherein the discharge means are provided for discharging gas from the deaeration channel.
- 25 7. An apparatus according to claim 6, wherein the means for discharging gas are provided with collecting means for removing moisture, in particular water vapor, from said gas.

8. An apparatus according to claim 6 or 7, wherein the means for discharging gas are designed for recycling gas and any moisture removed therefrom.

5 9. An apparatus according to any one of the preceding claims, wherein means are provided for applying a reduced pressure in relation to the surroundings in at least the overdose space and/or the deaeration channel.

10. A method for forming a product from a mass comprising at least natural mono- or polymers, wherein said mass is introduced into a mold cavity and is heated there, such that blowing agent therein is activated, while the
10 mold cavity is filled such that a portion of the mass flows through openings into an overdose space, while the mold cavity is deaerated via said overdose space and a deaeration channel and wherein in the deaeration channel the pressure is regulated such that in a controlled manner mass flows into the overdose space and in a controlled manner blowing agent is activated for
15 forming cells in the mass.

11. A method according to claim 10, wherein in at least the overdose space and/or the deaeration channel a reduced pressure is generated in relation to the mold cavity such that the pressure in the mold cavity is reduced and, with it, the boiling point of the blowing agent is increased.

20 12. A method according to claim 10 or 11, wherein the pressure in the overdose space and/or the deaeration channel is varied such, that immediately after introduction of the mass into the mold cavity, the blowing agent has a high boiling point there, whereupon the pressure is adjusted such that the boiling point is considerably reduced, at least to close to or below the actual
25 temperature of the mass in the mold cavity, such that the blowing agent boils virtually immediately and blows cells into the mass during or prior to cross-linking of the natural mono or polymers.

13. A method according to any one of claims 10 – 12, wherein a mold cavity is used with at least two openings which connect to an overdose space,
30 wherein, in the at least two openings, different pressures and/or flow

resistances are generated such that flow of the mass from an injection opening in the direction of a first of said openings is carried out at a different speed than flow of it in the direction of the other of said two openings.

14. A method according to claim 13, wherein said different pressures are generated in that the openings are connected to different overdose spaces and/or different deaeration channels.

15. A method according to any one of claims 10 – 14, wherein air, at least gas from the or each deaeration channel, is sucked away, wherein said air, at least gas is dried, such that blowing agent is separated therefrom, which blowing agent is recycled.

16. A method according to any one of claims 10 – 15, wherein the mass which flows into the overdose space is heated there, preferably to at least a temperature at which cross-linking of the natural mono- or polymers occurs.